

## ENHANCED TOUCH-SCREEN DISPLAY SYSTEM

### ABSTRACT OF THE DISCLOSURE

5                   An enhanced touch-screen display system is disclosed for  
generating pixel coordinate estimates corresponding to a location on a display  
screen touched by a user. The system is an analog resistive touch-screen  
display system having a processor and associated software algorithms to allow  
for the calibration and validation of pixel coordinate estimates as an integral  
10                   part of the real-time generation of the pixel coordinate estimates. Multiple  
calibrated pixel coordinate estimates are generated and processed at a pre-  
defined sampling rate to determine a valid pixel position to minimize sampling  
delays due to settling times. The x-axis position is also validated before the  
system attempts to generate a y-axis position to avoid the wasted time for  
15                   generating y-axis estimates when x-axis estimates are corrupted. Noisy  
estimates are inherently reduced in the touch-screen display system by  
providing shunts across certain drivers in the system that also allow for  
detection of a "no touch" state.

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